

# Notice of Allowability

Application No.

10/786,366

Examiner

Mary Zettl

Applicant(s)

MURAYAMA ET AL.

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment received on 2/2/2006.
2. ☒ The allowed claim(s) is/are 2, 3, and 5-18.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The amendment filed on February 2, 2006 has been entered.

**EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in telephone interviews with Pete Sistare on March 2, 2006 and March 6, 2006.

The application has been amended as follows:

- a. Claim 1 has been canceled.
- b. Claim 5 has been amended such that "claim 4" on line 2 has been changed to "claim 2."
- c. Claim 19 has been canceled.

***Allowable Subject Matter***

3. Claims 2, 3, and 5-18 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 2 and 15, prior art fails to teach or make obvious a radiation three-dimensional position detector, comprising scintillator cells wherein at least one of

the side faces of a scintillator cell in each layer has a different optical characteristic from that of a corresponding side face of a cell in a different layer being located at the same two-dimensional position within the layer and wherein partition mediums between the scintillator cells are made up of either a reflective or a translucent material with respect to the scintillation light, and an area enclosed by the partition medium of the reflective material in a  $k_1$ -th layer of the scintillator array occupies a different region in the plane parallel to the light receiving plane from a region occupied by an area enclosed by the partition medium of the reflective material in a  $k_2$ th layer of the scintillator array.

Regarding claim 14, prior art fails to teach or make obvious a radiation three-dimensional position detector, comprising scintillator cells wherein at least one of the side faces of a scintillator cell in each layer has a different optical characteristic from that of a corresponding side face of a cell in a different layer being located at the same two-dimensional position within the layer and wherein in every layer at least one side face has different optical characteristics from those of others.

Regarding claim 16, prior art fails to teach or make obvious a radiation three-dimensional position detector, comprising scintillator cells wherein at least one of the side faces of a scintillator cell in each layer has a different optical characteristic from that of a corresponding side face of a cell in a different layer being located at the same two-dimensional position within the layer and wherein among all of the side faces at the same two-dimensional position in the plane parallel to the light receiving plane, there is at least one that is not faced with the reflective material, for every two-dimensional position in the plane parallel to the light receiving plane.

Regarding claim 18, prior art fails to teach or make obvious a radiation three-dimensional position detector, comprising scintillator cells wherein at least one of the side faces of a scintillator cell in each layer has a different optical characteristic from that of a corresponding side face of a cell in a different layer being located at the same two-dimensional position within the layer and wherein at least one layer comprises the partition medium made up of reflective material.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Zettl whose telephone number is (571) 272-6007. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on (571) 272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'MZ' with a stylized flourish.

MZ